

Reply to Office Action of March 09, 2005  
Amendment Dated: April 11, 2005

Appl. No.: 10/014,610  
Attorney Docket No.: CSCO-014/5132

**Listing of Claims**

1           1 (Currently Amended): A method of configuring a segment identifier in a device,  
2           said segment identifier identifying a segment of a virtual circuit, wherein said virtual circuit  
3           is provisioned on a network, said device being connected to said network, said method being  
4           performed in said device, said method comprising:

5                 sending a loopback packet on said network, said loopback packet containing a  
6                 possible segment identifier in a header;

7                 determining that said possible segment identifier is an accurate segment identifier if  
8                 said loopback packet is received by said device from said network; and

9                 configuring said ~~possible~~ accurate segment identifier in said device such that said  
10                ~~possible~~ accurate segment identifier is provided for construction of headers while  
11                transmitting data from said device.

1           2 (Currently Amended): The method of claim 1, wherein said configuring comprises  
2           storing said ~~possible~~ accurate segment identifier in a memory which provides said segment  
3           identifier when transmitting said data from said device.

1           3 (Original): The method of claim 2, wherein said loopback packet comprises an  
2           asynchronous transfer mode (ATM) cell and said segment identifier comprises a VPI/VCI.

1           4 (Original): The method of claim 3, wherein said ATM cell comprises an operation  
2           and maintenance (OAM) cell.

1           5 (Original): The method of claim 4, wherein said device comprises a customer  
2           premise equipment, and wherein said another device comprises an edge router, and wherein  
3           said OAM cell is either a segment loopback cell or an end-to-end loopback cell.

1           6 (Currently Amended): The method of claim 5, further comprising:  
2                 receiving another packet from a user system;  
3                 segmenting said another packet into a plurality of payloads;

Reply to Office Action of March 09, 2005  
Amendment Dated: April 11, 2005

Appl. No.: 10/014,610  
Attorney Docket No.: CSCO-014/5132

4 encapsulating said plurality of payloads into a corresponding plurality of ATM cells  
5 using a header containing said possible accurate segment identifier stored in said memory;  
6 and  
7 transmitting said plurality of ATM cells on said virtual circuit.

1 7 (Original): The method of claim 6, wherein said another packet comprises an  
2 Internet Protocol packet.

1 8 (Original): An apparatus for configuring a segment identifier of a virtual circuit in  
2 a device, said device being connected to a network, said apparatus comprising:  
3 a memory designed to provide said segment identifier for transmitting data from said  
4 device;  
5 a loopback generator generating a loopback packet using a possible segment identifier  
6 in a header of said loopback packet;  
7 a port interface coupled to said network, said port interface for sending said loopback  
8 packet on said network, said port interface receiving another packet from said network;  
9 a parser coupled to said port interface, said parser examining said another packet to  
10 determine whether said another packet is received in response to said sending said loopback  
11 packet; and  
12 a configuration block storing said possible segment identifier as said segment  
13 identifier in said memory if said another packet is determined to be received in response to  
14 sending said loopback packet.

1 9 (Currently Amended): The apparatus of claim 8, wherein ~~said loopback packet~~  
2 ~~comprises a loop back cell~~ all of said memory, said loopback generator, said port interface,  
3 said parser and said configuration block are physically contained in said device.

1 10 (Currently Amended): The apparatus of claim 9, wherein said loopback ~~cell~~  
2 packet comprises an OAM cell and said segment identifier comprises a VPI/VCI according  
3 to asynchronous transfer mode (ATM).

Reply to Office Action of March 09, 2005  
Amendment Dated: April 11, 2005

Appl. No.: 10/014,610  
Attorney Docket No.: CSCO-014/5132

1 11 (Original): The apparatus of claim 9, further comprising:  
2 a payload generation block, said payload generation block receiving a data packet  
3 from a user system, said payload generation block segmenting said data packet into a  
4 plurality of payloads; and  
5 an encapsulation block coupled to said payload generation block and said memory,  
6 said encapsulation block encapsulating said plurality of payloads into a corresponding  
7 plurality of ATM cells, each of said plurality of ATM cells using a header, said header  
8 containing said ~~possible~~ accurate segment identifier, wherein said port interface transmits  
9 said plurality of ATM cells on said virtual circuit.

1 12 (Currently Amended): An apparatus for configuring a segment identifier of a  
2 virtual circuit in a device, said device being connected to a network, said apparatus  
3 comprising:  
4 means for sending a loopback packet on said network, said loopback packet  
5 containing a possible segment identifier in a header;  
6 means for determining that said possible segment identifier is an accurate segment  
7 identifier if said loopback packet is received by said device from said network; and  
8 means for configuring said ~~possible~~ accurate segment identifier in said device such  
9 that said ~~possible~~ accurate segment identifier is provided for construction of headers while  
10 transmitting data from said device,  
11 wherein said means for sending, said means for determining and said means for  
12 configuring are all physically contained in said device.

1 13 (Currently Amended): The apparatus of claim 12, wherein said means for  
2 configuring stores said ~~possible~~ accurate segment identifier in a memory which provides  
3 said segment identifier when transmitting said data from said device.

1 14 (Original): The apparatus of claim 13, wherein said loopback packet comprises  
2 an asynchronous transfer mode (ATM) cell and said segment identifier comprises a VPI/VCI.

Reply to Office Action of March 09, 2005  
Amendment Dated: April 11, 2005

Appl. No.: 10/014,610  
Attorney Docket No.: CSCO-014/5132

1           15 (Original): The apparatus of claim 14, wherein said loop back cell comprises an  
2 operation and maintenance (OAM) cell.

1           16 (Currently Amended): The apparatus of claim 15, further comprising:  
2 means receiving another packet from a user system;  
3 means for segmenting said another packet into a plurality of payloads;  
4 means for encapsulating said plurality of payloads into a corresponding plurality of  
5 ATM cells using a header containing said ~~possible~~ accurate segment identifier stored in said  
6 memory; and  
7 means transmitting said plurality of ATM cells on said virtual circuit.

1           17 (Currently Amended): A computer readable medium carrying one or more  
2 sequences of instructions for causing configuration of device with a segment identifier, said  
3 segment identifier identifying a segment of a virtual circuit, wherein said virtual circuit is  
4 provisioned on a network and said device is connected to said network, wherein execution  
5 of said one or more sequences of instructions by one or more processors contained in said  
6 device causes said one or more processors to perform the actions of:

7           sending a loopback packet on said network, said loopback packet containing a  
8 possible segment identifier in a header,

9           determining that said possible segment identifier is an accurate segment identifier if  
10 said loopback packet is received by said device from said network; and

11           configuring said ~~possible~~ accurate segment identifier in said device such that said  
12 ~~possible~~ accurate segment identifier is provided for construction of headers while  
13 transmitting data from said device.

1           18 (Currently Amended): The computer readable medium of claim 17, wherein said  
2 configuring comprises storing said ~~possible~~ accurate segment identifier in a memory which  
3 provides said segment identifier when transmitting said data from said device.

Reply to Office Action of March 09, 2005  
Amendment Dated: April 11, 2005

Appl. No.: 10/014,610  
Attorney Docket No.: CSCO-014/5132

1           19 (Original): The computer readable medium of claim 18, wherein said cell  
2 comprises an asynchronous transfer mode (ATM) cell and said segment identifier comprises  
3 a VPI/VCI.

1           20 (Original): The computer readable medium of claim 18, wherein said loop back  
2 cell comprises an operation and maintenance (OAM) cell.

1           21 (Currently Amended): The computer readable medium of claim 20, further  
2 comprising:  
3           receiving another packet from a user system;  
4           segmenting said another packet into a plurality of payloads;  
5           encapsulating said plurality of payloads into a corresponding plurality of ATM cells  
6 using a header containing said ~~possible~~ accurate segment identifier stored in said memory;  
7 and  
8           transmitting said plurality of ATM cells on said virtual circuit.

1           22 (Original): The computer readable medium of claim 21, wherein said OAM cell  
2 comprises either a segment loopback cell or an end-to-end loopback cell.